



IWS-32.21d

REGION-3

RESULTS OF AIR SAMPLES
RAYBESTOS-MANHATTAN
FRICTION PRODUCTS
MANHEIM, PENNSYLVANIA

AUGUST, 1964

RESULTS OF AIR SAMPLES OF AUGUST, 1964
RAYBESTOS-MANHATTAN, MANHEIM, PENNSYLVANIA

FRICTION

<u>OPERATION</u>	<u>IMPRINGER</u>		<u>MEMBRANE FILTER</u>		
	Sample #	mppcf	Sample #	Fibers/cc total	10M +
Mixing Coating					
Extruding					
Mixer-BZ	74	0.0	75	14.9	0
Person			329	66.9	5.9
Extruder-Person			430	0.1	0.1
Preform-Person			446	1.3	0.1
			447	1.9	0.1
Forming					
Winder-BZ	9	.1	10	3.8	1.0
	105	.0	106	0	0.3
	111	.0	112	0.3	0.0
	492	.0	493	3.3	0.0
Person			404	5.8	0.2
			485	3.3	0.6
			486	1.3	0.1
			487	2.9	0.1
Slitter-BZ	103	.0	104	2.3	0.6
	183	.8	184	13.7	1.8
Person			305	2.2	0
			316	0	0
			330	0	0
Calender-BE	235	.6	236	14.6	3.2
Person			450	3.7	1.1
			457	1.3	0.6
			458	8.1	3.1
			476	38.8	6.8
Bender-BZ	189	.2	190	00.5	0.0
Person			309	116.4	34.8
Roller-BZ	50	.5	51	0	0.2
Convering-BZ	170	.1	171	0.5	0.2
Hot Pressing					
Hot Press Oper.-BZ	005	.1	006	0.4	0.4
	007	.0	008	2.4	0.0
	54	.1	55	0.4	0.0
	60	.1	61	0	0.0
	494	.0	495	2.1	0.0

NOTES ON ABBREVIATIONS

"Person," refers to personal samples on membrane filters

"BZ" refers to breathing zone samples by companion impringer & membrane filter

"SEQ", refers to unattended samples taken by a sequented sampler

"GEN", refers to sample of general plant air in the particular department

OPERATION	IMPRINGER		MEMBRANE FILTER		
	Sample #	mppcf	Sample #	Fibers/cc total	10 μ +
Hot Pressing (cont.)					
Person			205	1.7	0.0
			303	101.6	25.1
			304	81.0	16.0
			325	0.2	0.0
			326	1.5	0.3
			405	1.5	0.6
			445	0.7	0.3
			448	0.7	0.1
			471	1.5	0.7
			472	58.8	0.6
Hot Press Oper.-BZ			473	48.5	0.6
			488	2.9	0.3
			490	3.3	0.0
			491	2.2	0.2
Baking					
Oven Operator-BZ	241	1.19	242	1.0	0.5
			419	2.3	0.3
Person			413	2.0	0.6
			414	7.6	0.3
			449	3.7	0.6
			464	0.0	0.0
Form Fitting-BZ	159	.7	160	0	0.6
Person			478	5.7	0.0
			479	52.5	17.1
Oven Loading-BZ	52	.2	53	0	0.0
Person			474	0	0.0
Debonder-Person			442	1.5	0.2
Grinding and Sending					
Grinder-BZ	17	2.6	18	0	0.0
	64	.0			
	72	.6	73	8.6	0.2
	107	.7	108	8.7	2.8
	177	1.8	178	16.4	1.6
	218	.2	219	0	0.0
	222	.2	223	0	1.0
	243	.2	244	0.4	0.2
	253	.1	254	2.9	0
	261	1.7			
	410	1.4	411	5.0	1.5

OPERATION	IMPRINGER		MEMBRANE FILTER		
	Sample #	mppcf	Sample	Fibers/cc total	10M +
Grinding and Sanding (cont.)					
Person			214	6.1	1.3
			215	12.7	3.2
			306	22.8	1.1
			314	75.3	38.8
			417	4.6	1.2
			421	2.0	0.3
			406	10.8	3.2
			409	3.3	0.5
			412	6.5	2.1
			426	16.9	4.4
			427	14.1	3.7
			437	1.5	0.5
			469	47.9	2.9
Sander-BZ	58	.2	59	0	0.0
	153	.1	154	0	0.0
	140	.2	141	4.8	0.0
			202	6.5	1.1
			274	7.2	1.7
			460	0	0.0
			466	105.1	21.1
			166	2.2	1.1
			498	2.8	0.8
Dusting-BZ	19	1.3	20	6.5	2.4
Person			201	14.0	2.6
			400	8.0	2.0
			407	10.9	9.8
			216	9.5	1.9
Blasting-BZ	122	.3	123	0	0.0
Person			425	0.1	0.0
Deburring-BZ	109	.2	110	0.3	0.0
Person			402	2.5	0.6
Reaming-BZ	29	.6	30	1.2	0.0
Cutting & Drilling					
Drilling-BZ	31	.9	32	2.2	1.2
	37	.4	38	5.9	1.2
	184	.1	165	1.4	0.0
	233	.8	234	4.6	4.3
	245	.2	246	0	0.0
	251	.1	252	0	0
	255	.3	256	1.4	0
Person			200	4.2	1.5
			203	2.5	0.0
			217	5.7	1.3
			302	12.6	2.3
			370	17.4	1.6

OPERATION	IMPRINGER		MEMBRANE FILTER		
	SAMPLE #	mppcf	SAMPLE #	Fibers/cc total	10 μ +
Cutting & Drilling (cont.)					
Drilling-BZ (cont.)					
Person			403	8.5	1.4
			408	2.7	0.2
			455	2.5	1.0
			461	0.1	0.0
			481	3.3	0.0
			483	6.3	0.0
			484	0.0	0.0
Sewing-BZ	229	.3			
	168	.1	169	0	0.0
	172	.5	173	4.6	0.9
	231	.6			
	237	.5	238	1.4	0.4
Person			312	130.1	25.1
			327	5.9	0.3
			454	7.0	2.4
			307	18.3	0.0
			432	3.5	1.2
			433	1.7	1.5
			459	2.5	0.2
			460	4.7	0.3
			482	3.3	0.0
Groover-BZ	46	.7	47	4.3	2.9
	66	.2	67	0	0
Person			475	7.3	5.1
Slitting-BZ	70	.2	71	0	0.0
Person			313	34.2	3.4
Beveler-BZ	257	.1	258	0	0
Person			308	9.1	0
Bonding and Riviting					
Bonding-BZ	35	.4	36	2.3	0.2
	48	.3	49	2.3	0.9
	62	.3	63	1.4	2.5
	126	.2	127	0	0
	496	3.4	497	48.5	12.8
	221	.2	220	0	0.0
	224	.4	225	0.9	0.2
Person			439	1.9	0.6
			440	1.5	0.3
			477	9.1	0.0
			424	1.6	0.5
Riviting-BZ	25	.2	26	0.5	0.2
Person			436	45.6	0.7
			438	0.3	0.3

OPERATION	IMPRINGER		MEMBRANE FILTER		
	SAMPLE #	mppcf	SAMPLE #	Fiber/cc Total	10 μ +
Inspection and Packing					
Inspect-BZ	15	.3	16	5.7	1.1
	151	.2	152	0	0.0
	259	.3	260	0	0
Person			212	16.1	3.0
			318	43.4	2.3
			319	8.7	1.6
			321	0	0
			401	12.2	3.4
			428	0.7	0.3
			441	0.8	0.1
			451	9.9	2.6
			452	14.8	3.0
			465	0.6	0.2
			499	6.3	1.7
			480	11.6	7.2
Packer-BZ	33	-	34	3.5	1.0
Person			431	1.3	0.0
			434	17.7	3.5
			435	4.2	1.8
Brander-BZ	27	.3	28	6.7	1.0
	239	.8	240	0	2.3
Person			423	1.8	0.7
			426	16.9	4.4
			427	14.1	3.7
			453	0.7	0.2
Spray Painting-Person			322	32.0	4.6
Miscellaneous					
Loader Trucker					
Stocker-Person			300	3.4	5.7
			328	0.2	0
			422	5.0	0.6
			443	1.1	0.2
			467	8.7	3.1
			463	0.4	0.1
Sweeper-BZ	56	1.6	57	5.0	0.2
	68	.2	69	0	0.2
Person			415	2.1	0.6
			470	73.6	2.9
Mechanic Utility-BZ			317	84.5	5.1
Person			420	1.1	0.3
			456	1.9	0.8
Foreman-Person			311	0.9	0
			320	6.0	1.0
			323	29.7	1.1
Office Clerk-Person			324	0.7	0.0

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16. Abstract (Limit 200 words)

Air sampling for asbestos (1332214) was conducted at Raybestos-Manhattan, Friction products (SIC-3292) in Manheim, Pennsylvania, August, 1964. Sampling was performed with an impinger and a membrane filter. Breathing zone impinger samples ranged from unmeasurable at one worksite to 2.6 million particles per cubic foot neat one grinder. Breathing zone membrane filter samples ranged from unmeasurable at several work sites to 21.1 fibers greater than 10 microns in length per cubic centimeter (f/cc) around a sander. Personal membrane filter air samples ranged from unmeasurable at several worksits to 38.8f/cc at the grinding and sanding operations area.

7. Document Analysis a. Descriptors

Air-pollutants, Asbestos-dusts, Sample-testing, Dust-samples, Membrane-filters,
Breathing-atmospheres, Work-sites, Work-operations

b. Identifiers/Open-Ended Terms

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